UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,838	04/02/2001	Hyun-doo Shin	Q59546	8476

7590 10/06/2006

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037-3213

EXAMINER	
LE, BRIAN Q	

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/822,838	SHIN ET AL.	
	Examiner	Art Unit	
	Brian Q. Le	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/24/2006 has been entered.

Response to Amendment and Arguments

2. Applicant's amendment filed August 24, 2006, has been entered and made of record.

3. Applicant's arguments with regard to claim 1 has been fully considered, but is not considered persuasive because of the following reasons:

Regarding claim 1, the Applicant argues (page 7 of the Remarks) that Watanabe does not teach the concept of increasing a denoising threshold value because the increasing of threshold voltage level of a quantization pattern is not the same. The Examiner respectfully disagrees. First of all, after consider the disclosure, the support for "increasing a denoising threshold value if a pattern quantizing value is retained" is not found in the original disclosure. The Applicant must show the exact support (page number and line number) for the disclosure of this limitation. Secondly, because the Applicant does not define what is denoise in the claim. This resulted to a reasonable interpretation and art rejection. To further assist the Applicant with the guidance with claim language interpretations so that the Applicant can add further/more details limitations from the specification to the claims to overcome the prior arts, the Examiner is presenting MPEP, section 2111, Claim Interpretation; Broadest Reasonable Interpretation as follow: "The court explained that "reading a claim in light of the specification, to thereby interpret limitations

explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.")". Thus, Watanabe teaches an increasing of a denoising threshold value if a pattern quantizing value is retained (increase threshold voltage for a retaining/obtaining of quantized value) (column 1, lines 45-67; FIG. 2A; FIG. 2B and FIG. 8).

Thus, the rejection of the claim is maintained.

4. Applicant's arguments, see Remarks bottom page 7-8, filed August 24, 2006, with respect to rejection of claim 3 under 35 U.S.C 103 (a) have been fully considered and are persuasive. The rejection of claim 3 has been withdrawn.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding independent claims 1 and 9, the Applicant must show the exact support (page number and line number) for the disclosure of the limitation "increasing a denoising threshold value if a pattern quantizing value is retained". The Examiner could not find the support of this limitation. Similar to independent claims 5 and 10, the support for "a denoising threshold value" was not found. Again, the Applicant must cite the support for this.

Claims are not specifically addressed are rejected because they are dependent to the rejected claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 4-5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nakagawa U.S. Patent No. 5,291,282 and Katsuyama U.S. Patent No. 6,771,813, further in view of Watanabe et al. U.S. Patent No. 3,688,266.

Regarding to claim 1, Nakagawa teaches a method of describing pattern repetitiveness of an image (FIG. 6) comprising the steps of:

(b) decomposing the projected image down own level (divide the image into blocks) (column 7, lines 1-5);

(c) increasing a threshold value until a pattern quantizing value is retained (column 11, lines 59-68 and column 30, lines 59-68), and denoising the decomposed data (amplification and noise removal) (column 33, lines 1-10); and

(d) describing pattern repetitiveness of the image using the pattern quantizing value of the denoised data and the threshold value used for denoising (column 33, lines 1-15).

Nakagawa does not explicitly teaches the concept of projecting an image on a predetermined axis having a predetermined direction and does not teach the increasing a threshold value if a pattern quantizing value is retained. Katsuyama further teaches a pattern image processing (column 3, lines 35-38) wherein projecting an image on a predetermined axis (x-axis and y-axis) having a predetermined direction (FIG. 13 a, FIG. 17 and column 5, lines 40). Modifying Nakagawa's method of describing pattern repetitiveness of an image according to Katsuyama would able to apply the axis and direction to further describe the pattern/similarity of the image, thus the ability to outline the pattern (column 5, lines 38-44). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Nakagawa according to Katsuyama. Watanabe also teaches a pattern recognition process comprises a step of increasing a threshold value (increase voltage threshold value) if a pattern quantizing value is retained (the obtaining/retaining of quantized pattern which also is the obtaining/retaining of quantized value as shown by FIG. 2A; FIG. 2B and FIG. 8) (column 1, lines 45-67; FIG. 2A; FIG. 2B and FIG. 8). Thus, also modifying Nakagawa's method of describing pattern repetitiveness of an image according to Watanabe would able to operate threshold at different level to further distinguish

pattern (whether between letter or blank spaces) (column 1, lines 47-50). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Nakagawa according to Katsuyama and Watanabe.

Regarding claim 4, please refer back to claim 1 for the teachings and explanations.

For claims 5 and 9-11, please refer back to claim 1 for further explanation.

9. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Nakagawa U.S. Patent No. 5,291,282, Katsuyama U.S. Patent No. 6,771,813, Watanabe et al. U.S. Patent No. 3,688,266as applied to claim 1 above, and further in view of Acharya U.S. Patent No. 6,574,374.

Regarding claim 2, as discussed in claim 1, Nakagawa teaches the concept of decomposition. However, Nakagawa does not disclose the concept of decomposition is based on a discrete wavelet transform. Acharya teaches the system removing noises/artifacts (abstract) wherein the decomposition is based on a discrete wavelet transform (column 4, lines 1-10) to further remove the artifacts from the image. Modifying Nakagawa's method of describing pattern repetitiveness according to Nakagawa would able to further remove the noise and artifacts from the images. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Nakagawa according to Acharya.

For claim 6, please refer back to claim 2 for the explanation.

Allowable Subject Matter

10. Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to the increasing of denoising threshold:

U.S. Pat. No. 5,627,916 to Horiuchi, teaches image processing method.

EP0498656A1 to Fujinami, teaches encoding video signals.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Le
September 29, 2006